

# EV-STEP

## SUSTAINABLE TECHNICAL AND ECONOMIC PATHWAYS FOR ELECTRIFIED MOBILITY SYSTEMS IN EU28 BY 2030

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Pure and Plug-in-Hybrid electric vehicles can provide an appropriate technological answer to EU's energy and environmental strategic goals. But, to avoid a carbon or efficiency leakage from the end-use to the energy supply level, assessments must be performed in an inclusive framework. Building such a framework is complex due to the technological dimension in which the transport system interacts with a highly diverse mobility demand and with the electric system and energy system more largely.

Introducing a long term prospective dimension and the possible transformation of those interrelated systems increases the complexity of the task. By expanding existing system analysis tools, the aim of the EV-STEP project is to develop a framework for such an integrated assessment in order to assess the key technical and economic conditions of an increased electrification of European transport systems while covering the spatial heterogeneity of its territory. The originality of the methodology is to associate in a common analysis a bottom-up energy systems optimisation model and a static computable general equilibrium model. The MARKAL/TIMES and IMACLIM-S modelling frameworks are used. EV-STEP's contribution to Electromobility+ is the evaluation of electric vehicles roadmaps, of their implications for the interconnected European electric and energy system and, on the economic side, the assessments of some impacts on EU28s economic input-output balance. The project was started the 1st October 2012 and is scheduled for 24 months.

### PROJECT DATA

Funding/€	Total cost/€	Duration
502.660	734.634	24 months

**Partners**

- Association pour la Recherche et Developpement des Methodes et Processus Industrielles, Centre de Mathématiques Appliquées, FR
- Institute of Energy Economics and the Rational Use of Energy (IER); University Stuttgart, DE
- Risø DTU, Technical University of Denmark, DK
- Société de Mathématiques Appliquées et de Sciences Humaines, FR

During the first reporting period the efforts were focused on a better understanding and characterisation of the electromobility context as well as model updates. In particular a review of the rationale of support mechanisms in the three countries and data collection on vehicle technologies and recharging infrastructures were targeted. The consortium also identified the extension to EU28 as a main step to ensure that the models and results remain up to date at the end of the project. Due to the short duration one main decision and development of the first period was to advance the models expansion in order to adapt early in the project's life their structure to include Croatia.

## >> 2030 DEPLOYMENT SCENARIOS <<

